

being added to provide Applicants with a more complete scope of protection.

Support for new Claims 10 and 11 can be found at least at embodiments 1 and 2, Figs. 4, 5, 12 and 13, among others. For Claim 11, see the specification at page 18, last line to page 19, line 1 as well as page 25 last line to page 26, line 1.

Claims 7-9 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,394,826 (Ebe et al.). Claim 7 was rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,001,864 (Gibbons.). Claims 7 and 9 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,045,614 (de Lyon et al.).

Amended independent Claim 7 is directed to a semiconductor device comprising a substrate and formed thereon an active layer having the principal plane of (111)-plane, the active layer being used in photoelectric conversion, where an angle formed by any arbitrary two cutting lines not coming into coincidence is represented by θ , and the active layer has a cutting angle of $|\cos\theta| = \frac{1}{2}$ or $3^{1/2}/2$.

By virtue of the invention defined in amended Claim 7, since an active layer can be cut by utilizing the cleavability of the (111) substrate, the area of the active layer to be discarded can be made smaller, allowing semiconductor resources to be more effectively utilized (see specification page 39, lines 7-13).

Amended independent Claim 7 incorporated the features of cancelled Claim 8. Only Ebe et al. was applied against Claim 8. The Examiner took the position that Ebe et al. has the cutting angle recited in Claim 8. However, Applicants find no such teaching in the description corresponding to Fig. 2 of Ebe et al. Accordingly, amended Claim 7 is believed clearly patentable over Ebe et al.

New Claim 10 is directed to a photoelectric conversion element comprising

an anti-reflection layer, an n^+ layer, a p^- layer, and an electrode, provided from the light incident side. The n^+ layer and the p^- layer are epitaxial silicon layers and their surfaces are substantially (111)-plane. By virtue of the claimed structure, since all the active layers are epitaxial silicon layers, the active layers exhibit a higher quality than active layers comprised of wafer material.

Applicants believe that the features of Claim 10 are neither taught nor suggested by the art of record.

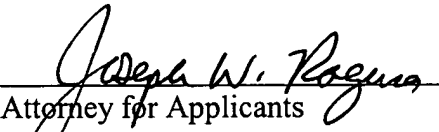
A review of the other art of record has failed to reveal anything which, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as a reference against the independent claims herein. Those claims are therefore believed patentable over the art of record.

The other claims in this application are each dependent from the independent claims discussed above, and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration, or reconsideration, as the case may be, of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,


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VERSION WITH MARKINGS TO SHOW CHANGES MADE TO CLAIMS

7. (Twice Amended) A semiconductor device comprising a substrate and formed thereon an active layer having the surface of (111)-plane; the active layer being used in photoelectric conversion, where an angle formed by any arbitrary two cutting lines not coming into coincidence is represented by θ , and the active layer has a cutting angle of $|\cos\theta| = \frac{1}{2}$ or $\frac{3^{1/2}}{2}$.

8. (Cancelled)

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